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Route To: Monongahela NF

Subject: Gypsy Moth Disease Survey, MNF

To: Forest Supervisor

There are two diseases now considered important as natural control factors for gypsy moth populations. The diseases are the fungus, Entomophaga maimaiga, (EM) and the gypsy moth nucleopolyhediosis virus (NPV). Both diseases were suspected by the FHP, Morgantown staff of killing large numbers of late instar gypsy moth larvae in unsprayed forests on the Cheat RD in June 1995. The first enclosure presents the latest thinking on how EM originated and spread in North America. Gary Bustamente wanted to know how widely these diseases were distributed over the northern portions of the Monongahela National Forest (MNF) where gypsy moth larvae could be found.

With the field assistance of Dave Curry and Gary Bustamente, a few gypsy moth cadavers were collected at each of 13 sites in four counties covered by the MNF. Collections were made in late June and early July, 1995. Samples were kept separate by site and shipped to FHP, Morgantown for laboratory examination. We processed the samples in late July. Our lab procedures followed those developed by Dr. Hajek, Boyce Thompson Institute for Plant Research. The two diseases were differentiated using the field and laboratory characteristics shown on the second enclosure.

Results are shown here:

Gypsy Moth Disease Occurrence on Monongahela NF from Cadavers Collected Late June and Early July, 1995

West Virginia County Name	Site Identification	Gypsy Moth Fungus	Gypsy Moth NPV
Tucker	SB 106-C-1	Present	Present
Tucker	SB 106-C-3	Present	Present
Tucker	SB 107-C	None found	None found
Tucker	SB 105-C-1	Present	Present
Tucker	SB 105-C-2	Present	Present
Tucker	SB 105-C-3	Present	Present
Pocahontas	Pine Grove Road	Present	None found
Pocahontas	Buffalo Mt.	Present	None found
Pocahontas	Sheets Road, Dunmore	Present	None found
Pendleton	SB 503 - edge	Present	Present
Pendleton	SK # 1-Elk Mtn.	Present	None found
Pendleton	SK # 1-Elk Mtn.	Present	None found
Pendleton	SK # 2-Elk Mtn.	Present	None found
Randolph	Beverly	Present	None found

In summary, we found the gypsy moth fungus at all sites except the one where the infestation had collapsed early in June leaving few larval cadavers: only one was recovered late in June. By contrast, gypsy moth NPV was recovered from cadavers of this species at only six sites. At five sites in Tucker County, NPV occurred naturally whereas the site in Pendleton County was sprayed with this virus as Gypchek during May 1995 and so NPV would be expected to be recovered from gypsy moth cadavers.

The presence of NPV on the MNF generally coincides with areas where gypsy moth infestations exist or would be expected. The general presence of gypsy moth fungus at those sites sampled is encouraging because this disease is known to kill late instar larvae even at low densities. It would seem that this fungus in 1995 was an important natural control factor in the gypsy moth infested areas that were not sprayed on the Cheat RD.

If you have any questions about the results of this survey, please contact Bob Acciavatti, FHP, Morgantown, directly.

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enclosures

cc: FHP, AO w/o enclosures
McKinney, FHP, R-9 w/o enclosures
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PAR/blm